

WE CLAIM:

1. An automotive seat assembly comprising:

a seat frame having a main portion fixedly mounted to the bottom of a vehicle seat and a riser portion fixedly mounted to the floor pan of a vehicle, said riser portion including a first pair of tracks and said main portion including a cooperative second pair of tracks such that said main portion is moveably supported with respect to said riser portion along said first and second pair of tracks;

a seat drive mechanism including at least one drive motor and a lead screw operatively connected in driven relationship with respect to said drive motor, said lead screw having external threads defined thereon;

a drive nut having a through-bore with internal threads that cooperate with said threads of said lead screw, said drive nut adapted to cause said seat assembly to move in at least two opposed directions relative to the vehicle floor pan in response to said drive motor;

said drive nut also including a second bore formed adjacent to said through-bore and extending in the general direction of said through-bore such that said internal threads of said through-bore are interrupted by said second bore, said interrupted threads of said through-bore acting to clear said threads of said lead screw and cause foreign matter that collects on said lead screw to be captured by said second bore and prevented from entering the threaded interface between said drive nut and said lead screw.

2. An automotive seat assembly as set forth in claim 1 wherein said second bore of said drive nut has an arcuate shape in cross-section and is located in reference to said through bore so that said second bore provides an interruption of the threads of said through-bore and also provides an opening having an aperture, said aperture adapted to clear the threads of said lead screw and cause

foreign matter entering the threads of said drive nut to be captured in said groove as said lead screw operatively moves within said drive nut.

3. An automotive seat assembly as set forth in claim 1 wherein said second bore of said drive nut is a groove formed longitudinally along the outer diameter of said through-bore to interrupt the threads of said through-bore by having a depth at least equal to the distance between the crest and the root of the threads of said through-bore, the interrupted threads caused by said groove adapted to clear the threads of said lead screw and cause foreign matter entering the threads of said drive nut to be captured in said groove as said lead screw operatively moves within said drive nut.

4. An automotive seat assembly as set forth in claim 1 wherein said seat drive mechanism is fixedly supported relative to said riser portion of said seat frame and said drive nut is mounted to said main portion of said seat frame.

5. An automotive seat assembly as set forth in claim 1 wherein said seat drive mechanism is fixedly supported relative to said main portion of said seat frame and said drive nut is mounted to said riser portion of said seat frame.

6. An automotive seat assembly as set forth in claim 5 wherein said seat assembly further includes a drive nut bracket mounted to said riser portion of said seat frame and adapted to retain said drive nut, said drive nut bracket having at least one opening formed to accept and retain said drive nut.

7. An automotive seat assembly as set forth in claim 6 wherein said drive nut has a cylindrical shape and includes at least one retaining portion having an end lip and an annular retaining groove, said drive nut adapted to be rotatively supported and retained in said opening of said drive nut bracket by the insertion of a locking clip in said annular retaining groove.

8. An automotive seat assembly comprising:

a seat frame having a pair of seat support members fixedly mounted to the bottom of a vehicle seat and including at least one vertical drive mechanism fixedly mounted with respect to the vehicle floor pan such that said seat support members are moveably supported with respect to said at least one vertical drive mechanism;

said at least one vertical drive mechanism having a drive motor and a lead screw operatively connected in driven relationship with respect to said drive motor, said lead screw having external threads defined thereon;

a drive member mounted to said pair of seat support members and having an internally threaded bore that cooperates with said threads of said lead screw, said drive member adapted to cause said seat assembly to move in at least two opposed vertical directions relative to the vehicle floor pan in response to said drive motor;

said drive member also including a second bore formed adjacent to said internally threaded bore and extending in the general direction of said internally threaded bore such that said internal threads of said drive member are interrupted by said second bore, said interrupted threads of said internally threaded bore acting to clear said threads of said lead screw and cause any foreign matter that collects on said lead screw to be captured by said second bore and prevented from entering the thread interface between said drive member and said lead screw.

9. An automotive seat assembly as set forth in claim 8 wherein said second bore of said drive member has an arcuate shape in cross-section and is located in reference to said internally threaded bore so that said second bore provides an interruption of the threads of said internally threaded bore and also provides an opening having an aperture, said aperture adapted clear the threads of said lead screw and cause foreign matter entering the threads of said drive member to be captured in said groove as said lead screw operatively moves within said drive member.

10. An automotive seat assembly as set forth in claim 9 wherein said second bore of said drive member is a groove formed longitudinally along the outer diameter of said internally threaded bore to interrupt the threads of said internally threaded bore by having a depth at least equal to the distance between the crest and the root of the threads of said internally threaded bore, the interrupted threads caused by said groove adapted to clear the threads of said lead screw and cause foreign matter entering the threads of said drive member to be captured in said groove as said lead screw operatively moves within said drive member.